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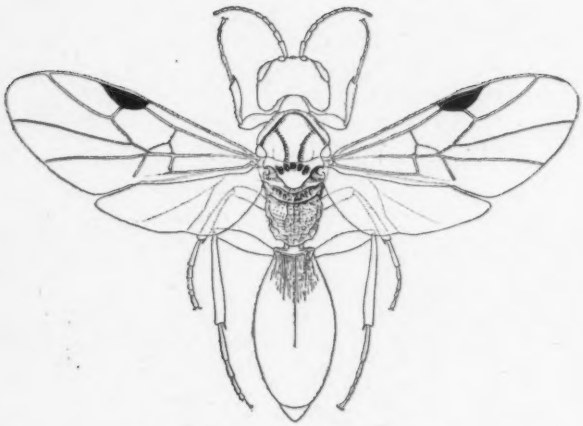

Vanhornia eucnemidarum Crawford.

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Desiderata of North American Carabidæ

81a, 87a, 106*, 07*, 08, 09, 11, 13*, 15, 17*, 19a, 23a, 23b, 26, 31, 41, 44, 47, 48*, 51*, 54, 58, 61, 62, 63, 66*, 68*, 70*, 71, 75, 80*, 81, 82, 85*, 86*, 87*, 89*, 90, 96, 202, 03, 04, 09, 16*, 23, 29, 36, 38, 45, 46*, 47*, 49*, 50*, 52, 53, 56, 57, 60*, 63, 68, 70*, 72*, 76, 77*, 78, 79, 81, 82*, 91, 93*, 94*, 98, 99*, 301*, 03, 07a, 09*, 10*, 12, 23*, 28, 34*, 35, 36, 38*, 46, 50, 52a, 53, 54, 55*, 62, 63*, 68, 69, 76*, 77, 78*, 82*, 83*, 85*, 90, 93, 98, 99, 400*, 06, 09, 10*, 11, 18*, 19*, 22, 24, 25, 28, 29*, 30, 32, 36*, 37, 38*, 39, 42*, 43, 44*, 46, 47*, 51, 58, 60, 64, 69*, 74*, 77, 78, 79*, 80*, 88*, 89*, 90, 91, 93.

Offerata, rare species of North American Coleoptera. *Lack full set.

The Snow Collections, University of Kansas, Lawrence

DAECKE ON TRYPETID GALLS.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XXI. OCTOBER, 1910. No. 8.

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Trypetid Galls and Eurosta elsa n. sp.

(With Plate X.)

BY E. DAECKE.

In an interesting paper in Psyche, Vol. XIV, No. 4, page 71, the late Millett T. Thompson described the galls of *Eurosta reticulata* Snow and *Eutreta sparsa* Wied., both on the root of golden-rod, while *Oedaspis polita* Loew, *Oedaspis atra* Loew and *Eurosta solidaginis* Fitch have been previously recorded as gall-makers on golden-rod.

During the summer of 1906 I had the good fortune of locating the galls of a golden-rod-loving Trypetid not hitherto recorded.

It was in September and golden-rods were in full bloom when I took a stroll with my little niece through a sparsely wooded section near Richmond Hill, L. I. As natural as it is for a collector to take insects it is for a little girl to pick flowers. Elsa picked golden-rods, but alas! out came a plant with its roots which the loose, sandy soil could not hold—and a new story was told.

There were one to three galls on the root of every plant examined, of fleshy, potato-like consistency, with a chamber

scarcely wider than the puparium and leading out toward the upper end; the aperture of exit softly drawn together. Length, 20-25 mm.; width, 10-12 mm.

Unfortunately, all galls collected showed that the insects had but recently emerged. Obviously they were unknown Trypetid galls of a large species which emerged in early September, and looking up the list of known life histories of the local species, everything pointed toward *Eurosta comma* Wied.

To verify this I had to wait one year, and was not disappointed in finding them at the same place in August, 1907, and ready to emerge. In the meantime I betook myself to Lucaston, N. J., where I always collected *E. comma* in September. After a little search I located the galls and was surprised to find them on *Solidago rugosa* Mill., while those from Richmond Hill, L. I., were taken on *Solidago juncea* Ait.

A difference in the host-plant might mean a difference in the species, hence the emerging of these flies was awaited with considerable interest. Flies from both cages began to emerge September 7 and continued until October 8. The flies reared from *Solidago juncea* proved to be the true form of *Eurosta comma* Wied. (see plate), but those from *Solidago rugosa* taken at Richmond Hill, L. I., differed uniformly from this species and proved to be a form new to science.

Eurosta elsa n sp.

Front sparingly beset with minute yellowish hair, the bristles are brownish. The upper surface of thorax clay-yellowish pollinose with short pile of same color. Scutellum brownish with two bristles. Abdomen reddish-brown with short blackish pile. Ovipositor conical, attenuated near apex, dark brown with black pile, transversely with fine ridges. Femora, middle and hind tibiæ reddish-brown; front tibiæ and all tarsi pale brownish yellow. Wings broad and rounded, dark brown with a number of small semi-transparent dots scattered over the surface. The extreme tip of wing with a narrow hyaline border and some hyaline indication at the end of sixth vein. A small triangular hyaline spot on the anterior margin beyond the stigma rarely exceeding the second longitudinal vein.

This species resembles *E. comma* Wied. very closely. It can be readily distinguished, however, in both sexes by the trian-

gular hyaline spot on the anterior margin of the wing. The comma mark by which Wiedemann named his species is missing on *E. elsa,* that is, the hyaline portion of triangle beyond the comma is infuscated on *E. elsa.* The ovipositor shows considerable variation in both species, but in two respects the differences are permanent. The ovipositor of *E. comma* is smooth and uniformly conical, that of *Eurosta elsa* is more or less attenuated near apex and finely ridged transversely.

Described from two males and five females. One male was taken near Baltimore, Md., October 1, 1899, all the others were reared from galls collected at Richmond Hill, N. Y., in October, 1907, by Miss Elsa Schwensen and myself.

The figure of upper left-hand corner of Plate X shows the galls of *Eurosta comma* on the root of *Solidago rugosa* Mill. The rest of the plate pictures *Solidago juncea* with the galls of *Eurosta elsa.* Figures on plate all about half size.

Notes on some Heliothid Moths.

By T. D. A. Cockerell.

1. **Rhododipsa masoni** Smith.

Some years ago my wife collected specimens of this species at Boulder, Colorado, always on flowers of *Gaillardia aristata.* The moth rests on the flowers so that the red wings are on the red disc, and the yellow thorax is over the yellow rays, with the result that although the insect is brightly colored, it becomes practically invisible. I afterwards found that this habit was known to Mr. J. Mason, of Denver, and Professor Gillette. The type was, I believe, discovered through the picking of a *Gaillardia* flower.

2. **Lygranthoecia brevis** Grote.

At Boulder, on August 3, I noticed that this species rests upon the disc of *Helianthus lenticularis,* and is admirably protected in this position by its color. It seems to me very close to *R. masoni,* and I had taken it for a new form of *Rhododipsa,* but Dr. Dyar assures me that it is Grote's *brevis.* Hol-

land's figure (Pl. xxvii, f. 40) is not much like my insect; Hampson's is better, but hardly characteristic, and as I was unable to identify my species from the works of these authors, I give a brief new description.

Expanse about 26 mm.; eyes large, rounded; prothorax with mainly yellow hair, almost entirely replaced on disc of thorax above with broad gray scales, having a more or less greenish lustre; behind this are large tufts of hairs which are broadly tipped with red; abdomen dark plumbeous with a metallic greenish and pinkish lustre, the apex broadly pinkish shading into orange at tip; anterior tibiae very short, three spurs on outer side, one near middle of apex, and mesad of that two large ones, also a small one on inner side higher up; pattern of anterior wings essentially as in *R. masoni*, but bright deep ferruginous taking the place of pink; antemedial line creamy white, with a short angular process, directed basad, in its lower part; median field with largely ochreous scales, but dark in region of stigmata; postmedian line broadly S-shaped; pattern of apical field, including checkered fringe, about as in *Pyrocleptria californica*. Posterior wings black with a white fringe; basal three-fifths of costa broadly pallid, the pale area squarely truncate at end. The moth carries pollen on its head, and undoubtedly assists in the pollination of the sunflower.

3. **Lygranthoecia mortua** Grote.

This extremely variable species abounds at Boulder during the first half of August, and is always found resting on the flower-discs of *Grindelia* where it is usually inconspicuous. The *packardii* (Grote) form appears to be the more normal one, but *mortua* proper also occurs, and there are other varieties. Possibly the series includes more than one species.

4. **Rhodophora gaurae** Sm. and Abb.

This beautiful species occurs in Boulder at light in July and August.

5. **Schinia hulstia** Tepper.

Taken at Boulder by Mr. S. A. Rohwer, and determined by Dr. Dyar.

Mr. John A. Grossbeck, well known for his papers on Geometridae, announces his removal from the New Jersey Agricultural Experiment Station, New Brunswick, N. J., to the American Museum of Natural History, 77th Street and Central Park West, New York City.

Turner's Genera of Thynnidae with notes on Ashmeadian Genera.

By S. A. ROHWER, Bureau of Entomology, Washington, D. C.

The *Thynnidae* have, until recent years, been one of the neglected families of Hymenoptera. This has been due largely to the fact that they are confined almost entirely to the Southern Hemisphere, and seem to be more numerous in Australia. The appearance of the one hundred and fifth fascicule of the Wytsman's Genera Insectorum, which contains the genera of *Thynnidae* as defined by their champion, Mr. Rowland E. Turner, is a great boom for this neglected family. Hymenopterists in general, and more especially students of *Thynnidae*, are very grateful to Mr. Turner for this contribution to our knowledge of this interesting, though difficult, family.

The character of the various parts of Genera Insectorum varies greatly, but Mr. Turner's may be classed among the best. This fascicule contains sixty-two pages and four plates, two of which are colored. Of the fifty-three genera of *Thynnidae* thirty-two are figured, and no less than fifty species are figured in part or in entirety.

Mr. Turner divides the Thynnidæ into three sub-families, Diamminæ, Rhagigasterinæ and Thynninæ. His classification differs from that proposed by Ashmead in a number of ways, and it seems that the arrangement proposed by Turner is a more natural one, although it is hard to tell until the entire group has been thus tabulated.

It is pleasing to see that Mr. Turner has chosen to divide the species into small well defined genera. With the number of described species increasing by the thousands it is almost necessary that the limits of the genera be more closely drawn than in days when only comparatively few species were known.

One of the star features of this fascicule of the Genera Insectorum is that the types of the genera are indicated. The fixing of genotypes is absolutely necessary in taxonomic work, and it is hoped that in the future the editor of the Genera Insectorum will insist on this being done for all fascicules.

It is a great deal easier to criticize work done by others than to do the work oneself. It is, however, not with the idea of criticizing that the following notes, on this admirable paper of Mr. Rowland E. Turner, and remarks on Ashmeadian genera are given. W. H. Ashmead was the first to attempt a detailed classification of the genera of Thynnidæ and two of his genera were founded on species only characterized in his generic tables. These genera have been treated differently by Mr. Turner, but in neither case have they been characterized correctly. For this, one cannot blame Mr. Turner. It is hoped that the following notes will put the Ashmeadian genera on a firmer basis.

In some few cases the ruling of the International Committee on Zoological Nomenclature has not been followed by Mr. Turner. To these cases attention will be called and what is believed to be a correct interpretation given.

It will be noted that in certain cases the synonyms have been omitted from the list of species so the synonymy is not complete. The following omissions are to be noted:

Agriomyia (*Tachynomyia*) *spinolae* Guérin, (a species named as the genotype of *Tachynomyia,* by Ashmead), and *Thynnus ferridus* Erichs, should be placed as synonyms of *Tachynomyia abdominalis* Guérin, p. 27. *Thynnus plagiatus* Sm. should be included in the synonymy of *Eucyrtothynnus maculipennis* (Guérin), p. 25.

Thynnus (*Elaphroptera*) *holomelas* André should be included as a synonym of *Elaphroptera intaminata* (Smith), p. 23.

The naming of a described species as a type of a new genus without telling the genus in which it was originally described, causes trouble for other workers.

Some of the characters given in the generic keys are not as definite as one would like, and it is hoped that in a later paper Mr. Turner will tell us what is "very near" and what is "not very near" (p. 15, category 30). A comparison between the length of the second transverse cubitus and the distance of the second recurrent from it would be very serviceable here. "Ventral aspect" instead of "beneath" (first part of category 37, p. 16), would avoid ambiguity. Yet these are minor points, and

when it becomes necessary to use such minor points to find fault with a work, it must be of a high character.

Thynnidea Ashmead = **Thynnoides** Guérin.

Thynnoides Guérin, Voy. Coquille Zool. II, 2, p. 214, 1830.

Type—Thynnoides fulvipes Guérin.

Thynnidea Ashmead, Can. Ent., p. 98, 1903.

Type—Thynnus fumipennis Westw.

According to Mr. Turner *Thynnus fumipennis* Westw. and *Thynnoides fulvipes* Guérin are congeneric so *Thynnidea* Ashmead is a synonym of *Thynnoides* Guérin.

Neozeleboria n. n.

Zeleboria Turner, Gen. Insect. Fas. 105, p. 32, 1910. Not *Zeleboria* Saussure or Ashmead.

Ashmead in CAN. ENT., p. 102, 1903, fixed the type of *Zeleboria* Saussure as *Thynnus carinatus* Smith, a species originally included; Turner preferred to use *Thynnus sexmaculatus* Smith which is not congeneric with *Thynnus carinatus* as the genotype, therefore, a new name is necessary for *Zeleboria* Turner. For this group the name *Neozeleboria* may be used. A species once designated as the type of a genus must always remain the type.

The type of *Neozeleboria* is *Thynnus sexmaculatus* Smith.

Zeleboria Saussure = **(Glaphyrothynnus** Turner).

Thynnus carinatus Smith and *Thynnus xanthorrhoei* Smith, the genotypes of *Zeleboria* and *Glaphyrothynnus* respectively, are congeneric so *Glaphyrothynnus* Turner is a synonym of *Zeleboria* Saussure.

Aelothynnus Ashmead (non Turner).

Type of the genus: *Aelothynnus multiguttatus* Ashmead (original designation), CAN. ENT., p. 101, 1903.

Female.—Unknown.

Male.—Clypeus convex basally, broadly produced in the middle, truncate at the apex; labrum rather broadly triangular, subequal in length to the apical width, broader apically, with a median V-shaped notch; maxillary palpi 6-jointed, the basal joint small, the remaining joints long, the second but little shorter than the third, the third and fourth

subequal and slightly longer than the subequal fifth and sixth; labial palpi 5-jointed, the basal joint small, the second joint slightly longer than the remaining subequal ones; no process between the bases of the antennae; antennae slender, nearly of equal width throughout, the apical joints slightly arcuate, the third joint much shorter than the fourth, antennae when stretched posteriorly reach nearly to the apex of propodeum; pronotum about two-thirds the length of the scutellum, sharply truncate anteriorly; propodeum rounded laterally, not sharply oblique from the metanotum; anterior coxae with the ventral aspect not concave; second recurrent vein about half the length of the second transverse cubitus from the base of the third cubital cell; tarsal claws with a tooth near apex; gaster elongate, smooth, no constriction between the segments; ventral segments without spines; hypopygidium nearly twice as long as the width at the apex, gently widening apically, bounded laterally by strong ridges which join with the lateral teeth, median tooth longer and more slender than the lateral ones, a prominence in the basal middle; seventh dorsal segment not flattened or produced.

In Turner's table this runs to *Elidothynnus* Turn., but differs from his description by the 5-jointed labial palpi, and differently shaped hypopygidium.

Aelothynnus multiguttatus Ashmead.
Can. Ent., p. 101, 1903.

The characters given by Ashmead in his table of the genera of Thynnidæ (CAN. ENT., June, 1903), are sufficient to satisfy the technical requirements so this species should date from that time and be accredited to Ashmead. The following characters may aid in its determination.

Male.—Length 7.5 mm. Clypeus shining, impunctate; front confluently punctured, the upper part more sparsely so; posterior orbits and vertex shining, almost impunctate; fourth antennal joint slightly shorter than the fifth; anterior face of the prothorax shining impunctate; pronotum, mesonotum, scutellum, mesopleurae shining, with distinct well separated punctures; propodeum rather closely punctured, punctures in some places confluent so as to appear striate; apical dorsal segment irregularly punctured; lateral lobe of the hypopygidium, triangular, obtusely rounded. Black; base of mandibles, clypeus except a median spot, a spot at the inner base of each antenna, narrow inner orbits to near top of eye, line on posterior and anterior margin of pronotum, tegulae, a line below spot on scutellum, metanotum (postscutellum of authors), a spot above the middle and posterior coxae, spots on lateral apical dorsal angle of first segment, a band on apical dorsal

margins of segments 2-5 interrupted in the middle and broadly dentate laterally, and spots on ventral, apical, lateral angles of segments 2-5, *yellow;* legs below the femora testaceous. Wings clear, iridescent hyaline; venation testaceous.

Type locality—Australia. Two males collected by Mr. Koebele.

Type—Cat. No. 13,204, U. S. N. M.

Turnerella n. n.

Aelothynnus Turner, Gen. Insect. Fas. 105, p. 39, 1910; and other references; not Ashmead, Can. Ent., p. 101, 1903.

Turner considering that *Aelothynnus multiguttatus* Ashm. was undescribed named *Thynnus cerceroides* Sm. as the type of *Aelothynnus. Aelothynnus multiguttatus* Ashm. and *Thynnus cerceroides* Sm. are not congeneric, which leaves *Aelothynnus* Turn. without a name. For this genus the name *Turnerella* may be used.

Type of *Turnerella* is *Thynnus cerceroides* Sm.

Guerinius Ashmead = (**Tachynothynnus** Turner).

Guerinius Ashm., Can. Ent., p. 100, 1903.

Type—Thynnus flavilabris Guérin (original designation.)

Tachynothynnus **Turn.**, Gen. Insect. Fas 105, p. 50, 1910.

Type—Thynnus shuckardi Guérin (original designation.)

The characters given by Ashmead for the genus *Guerinius* do not agree with genotype.* This caused Turner to place *Thynnus flavilabris* Guer. in his genus *Tachynothynnus* and consider *Guerinius* Ashm. as unknown. In this, however, he was wrong for the type of a genus once being named remains the type regardless of what the author had before him. The species Ashmead had before him called *Thynnus flavilabris* is *flavilabris* as understood by Turner and agrees with the original description.

Iswaroides Ashmead.

Jn. N. Y. Ent. Soc., VII, Mar., pp. 50-51, 1899.

Can. Ent., p. 98, 1903.

* The galaea are exserted and close together in such a manner that Ashmead in his haste mistook them for the labrum which he called "Bilobed," whereas it is broadly rounded. Ashmead was wrong in saying the lateral margins of the spine of the hypopygidium is "almost straight."

Type—Iswaroides koebelei Ashmead (original designation.)

This genus was founded for a male and female collected by Mr. A. Koebele in Australia. The specimens are on the same pin and were supposed to be in copulation. The differences between the male and female are so great—the two sexes falling in entirely different places in Turner's table—that it may be that this female may have used this male as mode of transport and does not even belong to the same genus.* If at some later time this should be proven to be true the female would have to be placed in a new genus, the male being the true type of *Iswaroides*, occurring on the page previous to the one on which the female was described.

Male Characters.—Posterior margin of head rather deeply arcuate; clypeus much produced, narrowed to the truncate apex; labrum narrow posteriorly, truncate, with the lateral angles sharp; mandibles with a distinct inner tooth; maxillary palpi 5-jointed, the first joint shorter than the second, which is the longest, apical three subequal; labial palpi 4-jointed, no marked difference in the length of the joints; antennae fully as long as the head and thorax (including propodeum), the third joint shorter than the fourth, joints beyond the fifth distinctly arcuate, the apical joints not narrower than the basal ones; inner orbits distinctly diverging toward the clypeus; no tubercule between the bases of the antennae; pronotum not much shorter than the scutellum, sharply truncate anteriorly and slightly arcuate; propodeum gradually rounded; anterior coxae distinctly concave on the ventral aspect; tarsal claws cleft; second recurrent vein about one-fifth the length of the second transverse cubitus from the base of the third cubital cell; the spurious vein present in the first cubital cell; gaster elongate, the segments strongly constricted, not flattened; sixth ventral segment with distinct spines at its lateral, apical angles; the fifth segment with rudimentary spines; hypopygidium broader apically, tridentate, the spines slender and long, the middle one the longest, extending beyond the seventh dorsal segment, apical dorsal segment rounded apically, the lateral apical angles tuberculate.

In Turner's table the male runs to *Aelothynnus* (*Turnerella* n. n.), but the labrum is truncate with the lateral angles sharp; the maxillary palpi are 5-jointed; the antennæ are fully as long as the head, thorax and propodeum; and the anterior coxæ are distinctly concave on the ventral aspect.

* That this is often the case has been suggested by Mr. Turner in a letter.

Female Characters.—Head flattened, seen from above about twice as wide anteriorly as at the base, but little longer than the width in the widest part; clypeus short, at the apex truncate; mandibles without a tooth; malar space not as long as half the width of the eye; eyes in outline oval; trophi wanting but according to Ashmead (1899) the maxillary palpi are 4-jointed and the labial palpi 3-jointed; pronotum seen from above quadrate, at the anterior lateral angles tuberculate, without a median sulcus; propodeum broader than rest of the thorax, a little longer than the meso- and metanotum, the posterior face truncate; claws with an erect inner tooth, not cleft as Ashmead (1899) says; gaster a little longer than the other two parts of the insect; the second dorsal segment does not differ from the others, the apical two-thirds of the segment is depressed, more broadly so in middle, and shining, the basal part with distinct punctures; the sixth ventral segment is shining centrally, the lateral part irregularly rugose; hypopygidium a little more than twice as long as the basal width, narrowing apically where it is truncate, shining impunctate, a tuft of long hair on each side near the apex; apical dorsal segment with a convex, shining, somewhat boat-shaped area, rather wider apically and nearly three times as long as the greatest width; a long tuft of hairs from a little below the middle at the side of this convex area.

In Turner's table this runs out at category 11.

Iswaroides kobelei Ashmead.

Male.—Length 11.5 mm. Head and clypeus closely distinctly punctured except on the front where the punctures are confluent; thorax similarly punctured, the punctures on the propodeum rather finer; the basal part of the segments of the gaster with distinct poorly defined punctures; when seen from behind the ventral segments appear to have small tubercules at the lateral margins; the space between the spines broadly arcuate, the middle spine curved upward apically. Black tibiae and tarsi slightly brownish; the scattered hairs silvery; wings dusky hyaline, venation black.

Female.—Length 5.5 mm. Head shining and, except for a few widely scattered punctures, impunctate; a median furrow between the antennae; pronotum finely striatopunctate; propodeum shining, slightly impressed in the middle; legs rather strongly spinose; basal part of the segments of the gaster with distinct punctures. Head ferruginous, the legs, thorax and abdomen pale piceous; hair white or gray except that at the apex of the gaster, which is rufous.

Type locality: Australia. A male and female, supposed to be in coitu, taken by Mr. A. Koebele.

Type—Cat. No. 13,205, U. S. N. M.

Some New England Orthoptera Observed in Late October.

By H. A. Allard, U. S. Dept. of Agriculture, Washington, D. C.

During a late October trip to central New England in 1909, I spent a few days observing and collecting the Orthoptera occurring at this season on and near Fort Hill, Oxford, Massachusetts.

At this time the nights were cold and frosty, with more or less thin ice forming on quiet water. The leaves, for the most part, were brown and withered, and many trees and shrubs had become entirely bare. In the low grounds and marshes bordering the ponds and streams the luxuriant grasses and sedges of summer were entirely dried and shrunken. The pastures and grass fields, however, were still fresh and green.

During the warm, sunny days, the following Orthoptera were observed or collected, almost entirely in the green, upland fields and pastures:

1. *Ceuthophilus maculatus* Harris. Beneath rocks in stone piles.
2. *Orphulella speciosa* Scudder. In open, sunny grass fields.
3. *Encoptolophus sordidus* Burmeister. In open grass fields and pastures.
4. *Stenobothrus curtipennis* Harris. Extremely common in grass fields.
5. *Melanoplus femur-rubrum* DeGeer. In open fields and pastures.
6. *Orchelimum agile* DeGeer. A single specimen in a pasture swale.
7. *Gryllus pennsylvanicus* Burmeister. Thousands everywhere in dry fields.
8. *Nemobius fasciatus* var. *vittatus* DeGeer. Extremely common in fields.
9. *Nemobius palustris* Blatchley. In cold, damp situations beneath leaves, etc.
10. *Oecanthus niveus* DeGeer. Rarely heard at this season.

Only two specimens of *Ceuthophilus maculatus* were found.

* The writer is indebted to Mr. A. N. Caudell of the U. S. National Museum for the identification of the Orthoptera listed in this paper.

Both were taken from beneath rocks in stone piles; one in damp woods, the other in a dry, open field.

Encoptolophus sordidus Burm. at this season occurs almost entirely in the sunny pastures and grass fields of dry, upland localities. This locust appears to be the hardiest and most active species at this season, and is rather difficult to capture owing to its strong powers of flight. Like many other locusts, this species stridulates only during flight, producing an unusually sharp, vigorous rattle, as it dashes across the fields. I captured many males of this species as I walked over the fields. If one is disturbed, it darts in a swift, straight flight some rods away with a noisy rattle. This locust is very common in all dry upland situations.

One of the smallest and noisiest locusts occurring at this season is *Stenobothrus curtipennis* Harris. Its notes are heard only during the sunny hours of the day, in pastures, fields, and in open, sunny places in the woods. These notes are frequent, short, lisping phrases, of several seconds' duration, produced by the sawing of both legs simultaneously upon the outer edge of the tegmina. This small locust is one of the commonest species at this season.

At this late season of the year it is very unusual to find an Orchelimum. I was successful in finding but one individual of *Orchelimum agile* DeGeer. I took this, one sunny afternoon late in October, among some low-land grasses in a sheltered pasture swale. I had been searching for specimens of *Nemobius palustris* when I heard the faint note of an *Orchelimum* near at hand. The insect was so chilled and enfeebled that it merely fell into the grass unable to leap when I reached down to grasp it. Its song was so brief and feeble that it was audible but a few feet away.

Among the late autumn insects, *Gryllus pennsylvanicus* Burmeister is one of the commonest and most musical crickets in New England. As soon as the morning sun has warmed the fields, great numbers of the males and females of this species may be seen traveling about in all upland fields and pastures. The gravid females are concerned with the sole function of ovi-

positing, while the more or less attentive males spend their time stridulating until silenced by the chilly hours of nightfall. The characteristic note of this field-cricket in New England is a short, brisk chirp, repeated at more or less regular intervals. In the piedmont region of Northern Georgia, where *Gryllus pennsylvanicus* is also very common, the characteristic stridulation is a rather weak, prolonged trill. The chirping stridulation in North Georgia is far less common, and seems to be the distinctive note of a form of this species appearing later in the season. In New England the chirping form seems to occur exclusively, as in this region I have never heard the more prolonged trill of the southern form.

Throughout October and early November the little ground cricket *Nemobius fasciatus* var. *vittatus* DeGeer fairly swarms in the grass fields and pastures of much of New England. Although I have observed and collected the short-winged forms of this cricket many years at Oxford, Massachusetts, I have never yet taken the long-winged form in this region. Around Washington, D. C., however, I have found the long-winged form intermingling with the short-winged form in some localities, and in others entirely wanting. Those factors which determine the presence or absence of the long-winged or short-winged forms of this Nemobius in any locality throughout its range are not yet obvious.

Nemobius fasciatus, as well as *Gryllus pennsylvanicus* includes two singing forms in portions of its range. I have noted these two forms definitely only for the short-winged *vittatus* at Oxford, Mass. Here both singing forms of *vittatus* are very common. The stridulation of one of these forms is a very high-pitched, prolonged trill, ti-ti-ti-ti-ti-ti-ti-ti-ti; that of the other form is a very brief, shrill, intermittent tiiii-tiiii-tiiii. A considerably lower pitch quite sharply distinguishes the brief intermittent notes, tiiii-tiiii, from the prolonged trill. These two trilling forms of *Nemobius fascatus* var. *vittatus* are quite definitely confined in separate colonies, and in different localities. The prolonged trilling form occupies almost exclusively the dry, grassy upland fields and pastures. In the damp and

marshy low grounds in fields and pastures this form is replaced almost entirely by pure colonies of the intermittent trilling form. Only where the wet and dry conditions overlap is there a noticeable intermingling of the two forms. At Oxford, Mass., *Nemobius fasciatus* var. *vittatus* is the most abundant insect of late autumn, and continues to trill in the fields until overcome by the keen, freezing nights of November.

I find the tiny *Nemobius palustris* Blatchley fairly common at Oxford, Mass., though far less so than the preceding. *Nemobius palustris* is much more local in its distribution, preferring to conceal itself beneath the grass and leaves in cool, damp spots by roadsides, and amidst the moss and leaves covering damp banks near brooks in thinly wooded situations. I have never heard this cricket in open fields frequented by *Nemobius fasciatus* var. *vittatus,* nor in any locality which is not damp or wet, and provided with an abundance of leaves or dead grass beneath which it can remain concealed. Its usual habitat is beneath the matted grasses and leaves in cool, damp situations, whether by roadsides, in fields or in woods. I not infrequently find this cricket beneath flat, deep-sunken stones in damp soils. Wherever found, its close association with damp or wet soils is at once evident. At Oxford, Mass., this cricket dwells almost entirely beneath the matted grass in damp soils by roadsides. In this region I have never observed it in true swamps or boggy sphagnum marshes which seem to be its favorite habitat in many other portions of its range, as stated by Blatchley in Indiana. This cricket is not readily collected until first located by its stridulations.

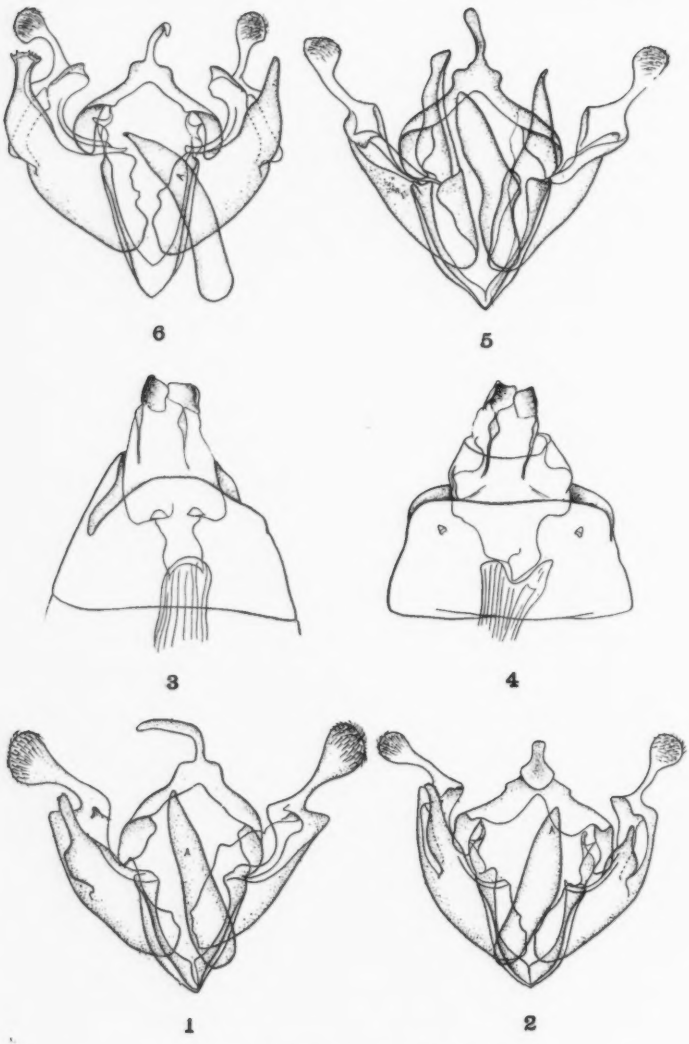
At this season of the year the true arboreal katydids may hardly be expected, since the woods are mostly leafless. However, on one or two occasions I heard the sharp, rasping tzeep of some species in an apple tree, which had not entirely lost its green leaves.

With the coming of autumn, the number of musical Orthoptera rapidly decreases, and in particular situations, many forms soon entirely disappear. These changes are largely brought about by more or less profound changes in the accustomed en-

vironment of certain species. After the luxuriant vegetation of the lowlands and marshes has become brown and withered, the species of *Conocephalus* and the noisy Orchelimums are no longer heard. When the forests have become bare, the trees have lost not only their leaves, but also all the arboreal katydids whose dwelling places were among the leaves.

Unlike the warm summer nights which are enlivened with the music and harmony of countless singing musicians concealed everywhere amidst the grasses, shrubs and trees, the long, freezing, late autumn nights in New England, except for the occasional wintry rustle of dry leaves, are painfully silent. Not until the morning sun has become high, and the open fields have lost their frosty chill, is there any sign of surviving insect life. By midday, if the weather is mild, the hardier locusts make their usual flights across the fields, and countless numbers of big and little crickets move restlessly about, trilling ceaselessly in the grass until sundown. If the evening is very warm, the slowly uttered trills of an occasional *Oecanthus niveus* may sometimes be heard, yet how impressive and pathetic these few short trills with their autumn environment of almost leafless trees and shrubs!

The notes of Orthoptera at different times during the day and at different seasons, show considerable variation in pitch, intensity, sound-quality, and delivery. These differences are mainly dependent upon varying conditions of moisture, temperature, etc. Late in the night, after the air has become damp and chilled, the deep-toned trill of *Oecanthus latipennis* is considerably lower in pitch and intensity than the same trill heard during warm afternoon hours. In the cool night air the wing vibrations have slowed down, so that each successive note is separated by longer intervals, imparting to the trill a marked quaver or tone rhythm. Higher temperatures from day to day throughout the summer very quickly increase the tone intensity and rate of delivery of the intermittent trills of *Oecanthus niveus*. In the same manner the colder temperatures of late autumn markedly modify the intensity and delivery of the notes of musical insects, until they become barely audible at certain low temperatures.



MAMESTRA TRIFOLII—SMITH.

New England Orthoptera collected in late October and November include almost entirely the true ground-inhabiting forms, as the crickets and acridian locusts. These are confined almost entirely to the open, upland fields and pastures which retain their greenness longest and are most exposed to the warmth of the sun's rays throughout the day.

Orthoptera are everywhere less abundant in species as cold weather approaches, yet careful observations at this season are of no less importance, since much information can be gained concerning the habits and relative numbers of those hardier species which become the dominant forms late in autumn.

Notes on Mamestra trifolii Rott. and its Allies.

By J. B. Smith, Sc.D.

(With Plate XI.)

Mamestra trifolii is one of our common Noctuids and usually represented by a fair series in collections and a very few duplicates, because, occurring throughout the country, there is little or no chance for exchange. It is recognized as a somewhat variable species and as a rule two types are brought out in collections: one in which there is little or no contrasting maculation, the s. t. line not conspicuous, but moderately dentate and without preceding sagittate black dashes; the other in which there are strongly contrasting shades, s. t. line conspicuous, strongly dentate to form a W on veins 3 and 4, preceded by well-defined, sagittate black marks. In almost every reasonably good series the difference between these two extremes is easily bridged by apparently intermediate forms.

In my catalogue the species stands as *trifolii* Rott., with *chenopodii* Fab., *albifusa* Wlk., *glaucovaria* Wlk., and *major* Speyer as synonyms and *oregonica* Grt. as a variety.

Hampson refers the species to *Scotogramma* Smith, gives the same synonymy except that he omits *major* Speyer altogether, and adds additionally *verna* Esp., *saucia* Esp., *treitschkei* Bdv., *pugnax* Hbn., *farkasii* Tr., *intermissa* Wlk, *inquieta* Wlk. and *canescens* Moore.

Of these names, however, he deems the following worthy of special mention:

"Ab. 1 *farcasi.* Fore wing darker and more varigated."

"Ab. 2 *oregonica.* Greyer; fore wing more thickly irrorated with pale brown."

"Ab. 3 *treitschkei.* Fore wing with medial part of subterminal line defined by prominent dentate black marks on inner side."

"Ab. 4 *albifusa.* Fore wing tinged with rufous and with white suffusion on costal area and beyond post medial line, the subterminal line with prominent dentate black marks on inner side at middle."

The form figured on p. 29 as *trifolii* ♂, agrees very nearly with the uniformly marked type usually found in our collections, except that it seems to be rather darker than our ordinary forms. There is, however, a still darker form occurring in the Northwest, which has been quite generally called *oregonica* in collections—largely on my authority.

In rearranging my series of *Mamestra* I set aside all the examples of *trifolii* for closer study, and Dr. Barnes was good enough to send me his material—the whole small enough for so common a species. During his visit to me, Mr. F. H. Wolley Dod marked in my box two examples, one as representing *albifusa* Wlk., the other as representing *oregonica* Grt., both in agreement with Hampson's memoranda, and, as to the *albifusa,* the most extremely contrasting specimen in my collection.

In separating out this material I find I have almost no Pacific Coast specimens, and, on close examination, the single example of *oregonica* as named by Dod is obviously not *trifolii,* although the name may be correct. In other words, I am not sure of my *oregonica,* although it agrees generally with the description. I am certain, however, that the specimen represents a good species, and one that I propose to fix by figuring the male sexual structures, so that if at any time later typical *oregonica* become available for dissection, they can be compared structurally, if not autoptically, with the material now before me.

After separating the material under examination as nearly as possible into two series, I examined the ♂ abdomen of extreme forms and found two strikingly distinct structures. The contrasting form, *albifusa,* has at the base of the abdomen a

pair of hair pencils fitting into grooves at the sides; the harpes are only slightly asymmetrical, but the claspers are altogether unlike, that of the left side, seen from below, being practically lost, while that of the right side is fully developed. The uncus in this form is only slightly dilated toward tip. In the uniform, or *trifolii* series, the abdomen has neither hair pencil nor lateral grooves; the harpes are decidedly dissimilar, both claspers are well developed though entirely unlike, and the uncus is spatulate at tip.

Oregonica in genital structure resembles *trifolii* in that the abdomen has no hair pencils, but the claspers are hugely and irregularly developed, altogether unlike anything else examined.

Having determined the existence of two structurally distinct forms, I attempted to divide them upon superficial characters, choosing contrast and development of the W-mark in the s. t. line as a base. On this I succeeded in getting two very nice series, coincident in distribution; but on testing by genitalic structure I found it all wrong; some very nicely contrasting forms that should be *albifusa* by all superficial signs, proved structurally like uniformly marked examples that should be and were *trifolii*. Abandoning this base, I noted a slight difference in wing form; one type with primaries a little more drawn out and pointed than the other. This served better, and then, on close study of individual features, I noted that in some examples the reniform was symmetrical above and below, making a rather broad, kidney-shaped mark. In other examples the inner defining line slopes toward the middle, drawing the mark out into a somewhat conical form that breaks the reniform outline. I found also that this was accompanied by a somewhat more ovate orbicular, tending to draw to a point inwardly, and on this basis all my examples separated nicely, the genitalic and ornamental characters coming into agreement.

Unfortunately, I have no European examples for comparison at this time, so that I am unable to say whether our forms are identical with those from that country, or whether there is not more than a single species involved in that country. All that I

can do now is to call attention to the fact that very similarly marked species exist; that further critical study of the European forms is needed, and in this connection to fix the American forms designated by the names now in use in our collections.

Mamestra trifolii.

Tends to uniformity in color, and ranges from an even ash-gray to luteous gray, variable in the amount of powdering. There is little contrast in the ground color, but the relative distinctness of claviform and reniform is variable, and so is the distinctness of the W in the s. t. line. This may be only slightly marked, or extend distinctly to the outer margin, and may or may not be preceded by dark marks or shades; rarely, however, are the preceding marks black. The orbicular varies in size and somewhat in shape, but is never drawn inwardly into a point. The reniform is broadly and symmetrically kidney-shaped.

Forty-seven examples of this type are under examination, and they come from Massachusetts, New York, New Jersey, Connecticut, Illinois, Iowa, South Dakota, Colorado, Washington, New Mexico and Arizona, covering thus approximately the entire country.

The structure of genitalia has been sufficiently mentioned to be left to the figure for further details. Examples from the entire range of localities have been examined in the preparation of this figure.

Mamestra albifusa Wlk.

The primaries, especially in the male, have a distinctly mottled appearance and tend to lighter shadings in the median and s. t. spaces. The maculation is on the whole much more distinctly relieved, and the W-mark of the s. t. line is always prominent and extends to the outer margin. Sagittate marks always precede the s. t. line; but they vary much in distinctness, and range anywhere from brown to black. The peculiarities of the orbicular and reniform have been already described, the latter as a rule somewhat less contrasting than in the preceding.

Thirty-six examples of this type are at hand from Maine, Alberta, Manitoba, Colorado, New Mexico, Arizona, Texas, Middle California.

The single example from Maine is doubtful. It is a female, very contrastingly marked, labeled by Mr. Dod as typical *albifusa*, but with the wing form and almost the reniform of *trifolii*. It is the only specimen in the entire series that is at all doubtful, and I have left it here chiefly because it fills in every respect the requirements of Walker's *albifusa*. The most easily recognizable portion of the sexual parts without dissection is the uncus, which is readily seen in mounted specimens where the anal parts are somewhat expanded.

Mamestra oregonica.

I have one male from my own collection, Colorado Springs, VI, which I refer to this species, and with this I am inclined to associate three females from Denver and Durango, Colorado, out of the Barnes collection. The male, which agrees with Mr. Grote's description, is very uniform in ground, slightly reddish in tint, the maculation clear but not at all relieved. S. t. line pale, not at all shaded, with a small W on veins 3 and 4, not extending more than half-way through the terminal space. Orbicular large, incompletely defined. Reniform broadly kidney-shaped, like that of *trifolii*. The three females agree in essentials, but are darker throughout.

On the under side this species has a continuous extra-median line and a discal mark on all wings.

The male genitalia are remarkable by the abnormal development of the claspers, which are separable from the harpes to the base, and cannot be described better than by a reference to Figure 5 on plate.

A species which at first sight looks like an intensification of *oregonica*, and which I have at times named as such, I have now separated out under the term *morana*.

Mamestra morana n. sp.

Ground color a dull luteous fuscous, without contrasting colors or markings. Front protuberant, with an obscure transverse darker shading. Collar with a median and terminal transverse dusky line which is never conspicuous and often barely traceable. Thoracic disc a little powdered with whitish, patagia with an obscure submarginal line. Primaries with the maculation of *chenopodii*, but obscure, broken, without decided contrasts. The basal and median lines are geminate,

scarcely relieved against the dark ground. S. t. line slender, pale, usually broken, the outward dents on veins 3 and 4 usually small and never conspicuous, although in some examples they extend to the outer margin. There are no conspicuous preceding marks, sometimes not even a dusky shading although, as a rule, the latter is present. Claviform short, broad, with a smoky outline, not dark-filled. Orbicular varying in size, nearly round, outlined in smoky, sometimes with a dark center, usually concolorous. Reniform large, broad, a little constricted, not well defined, dusky. Secondaries yellowish, smoky at base, with a broad outer blackish border; fringes yellowish. Beneath, whitish or yellowish, powdery; with a continuous exterior dusky line crossing both wings and a tendency to a dark area in the s. t. space; primaries with a blackish lunule, secondaries with a black discal spot.

Habitat—Colorado: Denver, Glenwood Springs, Fort Collins in June and July; Wyoming; Yellowstone Park in July; Washington: no date nor definite locality; British Columbia: Rossland in July.

A series of ten males and eighteen females is at hand, and the specimens differ little except in depth of ground color. In some the maculation is scarcely at all relieved; in others it is as well defined as in the average *chenopodii*. The dull, smoky-luteous ground will serve to distinguish this form from its allies.

A characteristic feature is the dusky shade of the s. t. space beneath. This, in most cases, is a real band, while in all cases the shading is obvious.

In sexual structure the species is bizarre. The harpes are of the *trifolii* type, but the claspers are asymmetrical, compound and, on the right side, the outer process is bluntly and raggedly terminated. The figure must be referred to for a real understanding of this structure, which is almost exactly duplicated in an altogether different species, *M. ortruda*, which by its other features is referable to quite a different series of species.

EXPLANATION OF PLATE XI.

Figure 1.—*Mamestra albifusa*, male.
Figure 2.—*Mamestra trifolii*, male.
Figure 3.—*Mamestra albifusa*, female.
Figure 4.—*Mamestra trifolii*, female.
Figure 5.—*Mamestra oregonica*, male.
Figure 6.—*Mamestra morana*, male.

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

TO CONTRIBUTORS.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form, will be given free, when they are wanted; and this should be so stated on the MS., along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., OCTOBER, 1910.

THE GROWING APPRECIATION OF ENTOMOLOGY.

The London *Times* for Wednesday, August 10, 1910, devotes rather more than two columns, exactly forty-six inches, to a sober and sensible account of the first International Congress of Entomology, held at Brussels August 1-6. We quote a few sentences: "Entomology is at last recognized officially as an important science. The study of insects so long looked upon with disdain as a pastime for children and old men has at last vindicated its claim as a valuable branch of human mental activity. That is to say, from being a purely intellectual exercise, entomology has developed a most important practical aspect that will, in the near future, have a profound and far-reaching effect upon the lives and fortunes of millions. The discovery of the astonishing phenomenon that one species of mosquito, and one only, is the vehicle for the transmission of yellow fever, another of malaria, while a single kind of biting fly communicates sleeping sickness to the teeming millions of the African Continent, has a direct and vital influence upon tropical medicine; and the Americans have long since realized that an accurate knowledge of the habits of one kind of beetle may save agriculturists from damage that may result in the loss of hundreds of thousands of pounds. Thus entomology has won the serious attention of practical men who, acting together with the purely academical devotees of the pure science,

have demonstrated their attachment to and appreciation of their study by organizing an International Congress that has received the hearty support of institutes, departments and governments."

On another page of this issue we give an account of the proceedings of the Congress.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

MR. C. B. HARDENBERG, formerly a resident of Philadelphia and later connected with cranberry insect investigations for the State of Wisconsin and the U. S. Department of Agriculture, has been appointed Entomologist to the Transvaal. His address is Box 434, Pretoria, Transvaal.

PROF. JOHN B. SMITH sailed for Europe August 20th and expects to return about the middle of October on the steamer Ryndam.

MR. WILLIAM SCHAUS is now located at 97 Elm Park Gardens, London, S. W., England. The first fruits of his three years of collecting in Costa Rica have appeared in a paper, in the Annals and Magazine of Natural History, containing descriptions of new species of Syntomidae and Arctiidae.

THE SIXTH ANNUAL REPORT OF THE STATE FORESTER OF MASSACHUSETTS. By F. W. Rone, State Forester. This is a very interesting and valuable document. The gypsy and brown-tail moth suppression is now under the supervision of the State Forester, and he gives a very complete account of what has been done in this line. The postal cards showing the life history of these two species in color should be a valuable method of educating the people. The predaceous *Calosoma sycophanta* and *scrutator* are also shown in the same way.

DR. HENRY SKINNER, editor of the NEWS, left for England on July 9th, and after spending some days in that country, took part in the International Congress of Entomology at Brussels, August 1 to 7. Going by way of Cologne, the Rhine, Mayence, Nuremberg and Vienna, he reached Graz to participate in the International Congress of Zoology there, ending August 19th. Writing on this last-named date, he expected to go to Trieste, take the Dalmatian trip of the Congress and return to England via Venice, the Italian lakes, Switzerland and Paris. He is expected in Philadelphia about September 26th.

RECENT GIFTS AND ACCESSIONS TO THE ENTOMOLOGICAL DEPARTMENT AT OXFORD UNIVERSITY.—From the report of the Hope Professor of Zoology, E. B. Poulton, for 1909, we learn that Dr. G. B. Longstaff has given an endowment of £2400 for an assistantship or other aid to the department. The remaining collections other than the Coleoptera, with over 3,000 types, acquired by the British Museum of Natural History in 1893, and zoological library of the late F. P. Pascoe, the distinguished authority on certain groups of Coleoptera have been presented by his daughter, Miss Pascoe. Mr. W. Walmesley White, of Teneriffe, gave a very fine collection of Lepidoptera of that island, a welcome addition, for the study of island faunas, to the Wollaston collections of Coleoptera of Madeira and the Canary Islands. Another gift consists of between 5000 and 6000 specimens of *Acidalia virgularia*, bred in a Mendelian experiment by Messrs. L. B. Prout and A. Bacot, in ten generations from a cross between two geographical races of the moths.

PLANT-DWELLING ODONATE LARVAE.—In the NEWS for June last, page 264, is recorded the breeding of *Mecistogaster modestus* Selys from a larva found in the water among the leaf bases of a bromeliad in Costa Rica. That I was not the first to breed this species is shown by the following. While in Cartago, Costa Rica, I received a letter from Mr. Frederick Knab, of the United States National Museum, dated Washington, August 5, 1909, in which he stated: "In the course of my mosquito work in the tropics I investigated the water between the leaves of the epiphyte Bromeliaceae and found that, besides mosquito larvae, there was a rich insect fauna. The winter of 1907-08 was spent at Cordoba, Mexico, and there I found that nearly every bromeliid investigated contained dragonfly larvae. I was not prepared to rear Odonata, but I finally did succeed in breeding out a couple of rather large, unfortunately crippled, Agrionids. I intended sending these to you when your announcement appeared that you would receive no more material. Since then these specimens have been destroyed by Dermestidae." Since my return to the United States, Mr. Knab has written me under date of August 18, 1910: "Herewith I am sending you, by Mr. Viereck, the fragments of the two dragonflies which I bred from arboreal bromeliids. I am afraid you can do but little with them, there is so little left, but if you can make them out I would be glad to hear from you." There is no doubt that the fragments of the imagos sent by Mr. Knab belong to the same species which I reared in Costa Rica, *Mecistogaster modestus* Selys, and they transformed in the same month, April (but of 1908), as mine did. Mr. Knab's letter of August 5, 1909, reached me in Costa Rica before I had found any bromeliadicolous Odonata, although I had

looked for them, and was a distinct encouragement to persevere in my search. I went to Costa Rica having this suggestion of Mr. O. W. Barrett's in mind, published in the NEWS for November, 1900, page 601: "I understand the early stages of *Mecistogaster* and *Megaloprepus* are still unknown. . . Now, is it possible that the early stages are passed in the large water-retaining leaf bases of Bromeliads?" I am glad to acknowledge my indebtedness to Messrs. Barrett and Knab in this search, and I hope to publish later descriptions and figures of this and other larvae of Costa Rican Odonata. I am not forgetful of the fact that the above-mentioned suggestion and discoveries of plant-dwelling Odonate larvae are antedated by the finds of Mr. Perkins in the Hawaiian Islands, first announced, I believe, by Dr. David Sharp in Volume V of the Cambridge Natural History (1895), page 426, in these words: "Mr. R. C. L. Perkins has recently discovered that the nymphs of some of these are capable of maintaining their existence and completing their development in the small collections of water that accumulate in the leaves of some lilies growing on dry land." A figure of one of these Hawaiian larva is given on the same page. In his own work on the Neuroptera (1899) in the "Fauna Hawaiiensis," Mr. Perkins several times alludes to these larvae (of several species of *Agrion*) inhabiting the plant *Astelia veratroides*, but gives no figure of them. There is still much opportunity for further research along this line, as the larvae of *Megaloprepus*, *Pseudostigma* and of *Mecistogaster* other than *M. modestus* have not yet been found.—PHILIP P. CALVERT.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), excluding Arachnida and Myriapoda. Articles irrelevant to American entomology, unless treating of new genera, will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in Heavy-Faced Type refer to the journals, as numbered in the following list, in which the papers are published, and are all dated the current year unless otherwise noted. This (°) following a record, denotes that the paper in question contains description of a new genus; while this (*), that of a new North American form.

For complete record of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington.

2—Transactions. American Entomological Society, Phila. **4**—The Canadian Entomologist. **5**—Physche, Cambridge, Mass. **6**—Journal, New York Entomological Society. **7**—U. S. Department of

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wasserlaboratorium, Nr. VII, 1-108 pp., **160,** iii, Biol. Sup. Heft 1. **Brown, T.**—Descriptions of Col. from the subantarctic islands of New Zealand; with remarks on the affinities of the genera, etc. The Subantarctic Islands of New Zealand, by C. Chilton, Wellington. Vol. 1, 78-123, 1909 (°). **Cameron, M.**—Description of two new species of the Longicorn genus Pentomacrus, **8,** xlvi, 135-136 (*). **Champion, G. C.**—Notes on certain Mexican and Central-American Zygopides described by M. Desbrochers des Loges, **35,** liv, 211-212. **Dickerson, E. L.**—Notes on Rhynchites bicolor, **179,** iii, 316-317. **Fall, H. C.**—Miscellaneous notes and descriptions of No. Am. Coleoptera, **2,** xxxvi, 89-197 (*). **Felsche, C.**—Ueber coprophage Scarabaeiden, **45,** 1910, 339-352. **Frost, C. A.**—On the repugnatorial secretion of Carabus vinctus, **5,** xvii, 86. **Fuge, B.**—Beitrage zur kenntnis der Lebenweise von Pachypus caesus, **193,** vi, 205-208. **Gebien, H.**—Diagnosen der von Dr. Sheffield Neave im sudlichen Kongo-Gebiet gesammelten Tenebrioniden, nebst Beschreibungen neuer Arten aus Deutsch-Ostafrika, **35,** liv, 144-182 (°). **Gunthert, T.**—Die eibildung der Dytisciden, **89,** xxx, 300-372. **Hegner, R. W.**—Experiments with Chrysomelid beetles, **198,** xix, 18-30. **Heller, K. M.**—Neue Russelkafer aus dem Papuanischen Faunengebiete, **38,** xxix, 179-197 (°). Die arten der Brenthiden gattung, **83,** xxxii, 177-183. **Horn, W.**—Genera Insectorum. Carabidae. Subfam. Cicindelinae, **194,** Fasc. 82b, 105-208. **Johnson, R. H.**—Determinate evolution in the color-pattern of the lady-beetles, **259,** No. 122, 104 pp. **Kerremans, C.**—Monographie des Buprestides, Tome IV, 273-279. **Kuhnt, P.**—Neue Erotylidae, **45,** 1910, 219-270 (*). **Leng, C. W.**—Notes on Coleoptera collected in northern Georgia, **6,** xviii, 71-82. **Lesne, P.**—Revision des Coleopteres de la famille des Bostrychides, **86,** lxxviii, 471-574. **Lewis, G.**—On new species of Histeridae and notices of others, **11,** vi, 43-58 (°). **Maxwell-Lefroy, H.**—Life-histories of Indian insects. Coleoptera I, **269,** ii, 139-163. **Moser, J.**—Beitrag zur Kenntnis der Cetoniden, **45,** 1910, 293-301 (°). **Nassonov, N. V.**—Untersuchungen zur Naturgeschichte der Strepsipteren. 401 pp. Separate from **225,** xxxiii. **Nusslin, O.**—Zur Anatomie und Biologie der Borkenkafergattung Cryphalus, **214,** viii, 289-298. **Ohaus, F.**—Beitrage zur kenntnis der Ruteliden, VII, **35,** liv, 213-227 (°). Macrocyphonistes, gen. nov. Dynastin, **45,** 1910, 388 (°). **Pape, P.**—Coleopterorum Catalogus. Pars 76. Brachyceridae. 36 pp. **Pic, M.**—Coleopteres exotiques nouveaux originaires d'Amerique, **55,** xxxii, 130-131, 139. **Poppius, B.**—Die Coleopteren des arktischen Gebietes (list), **271,** v, 1st Lief., 289-447. **Sajo, K.**—Aus dem Leben der Kafer. Aus der Kaferwelt. Mit Rucksicht auf die Beziehungen der Kerfe zur menschlichen Kulturgeschichte. Leipzig, 1910. **Schilsky, J.**—Synonymische Bemerkungen zur Gat-

tung Polydrosus, **45,** 1910, 291-292. **Schmidt, A.**—Neue Arten aus den Gattungen Aphrodius, Ataenius, Saprosites, **45,** 1910, 353-361. **Swaine, J. M.**—Notes on fruit tree Scolytids, **75,** 1909, 58-63. **Tower, W. L.**—The determination of dominance and the modification of behavior in alternative (mendelian) inheritance, by conditions surrounding or incident upon the germ cells at fertilization, **198,** xviii, 285-352. **Tucker, E. S.**—Incidental captures of Coleoptera at Plano, Texas, **4,** xlii, 229-237. **Von Leeuwen, W. D.**—Ueber die Lebensweise und die Entwicklung einiger holzbohren den Cincindelidenlarven, **46,** liii, 18-40. **Weise, J.**—Chrysomelidae von Madagaskar, den Comoren und den Inseln Ostafrikas, **156,** ii, 419-506 (°). **Wolcott, A. B.**—Notes on some Cleridae of middle and North America, with descriptions of new species, **260,** vii, 339-401 (*). Synoptic table of the species of Aulicus, **4,** xlii, 245-246. **Zaiter, P.**—Coleopterorum catalogus. Pars 17: Dryopidae, Cyathoceridae, Georyssidae, Heteroceridae. 68 pp.

HYMENOPTERA. Banks, N.—New species of Psammocharidae (Pompilidae), **6,** xviii, 114-126 (*). **Beutenmiller, W.**—The No. Am. species of Aulacidea and their galls, **153,** xxii, 253-258. **Bischoff, H.**—Die Chrysididen des koniglichen zoologischen museums zu Berlin, **258,** iv, 427-493 (*). **Brues, C. T.**—A new Pteromalid parasitic on Tortrix fumiferana, **4,** xlii, 259-260 (*). A new species of Telenomus parasitic on the eggs of Tussock moths, **5,** xvii, 106-107 (*). **Cameron, P.**—On some Asiatic species of the subfamilies Braconinae and Exothecinae in the Royal Berlin Museum, **40,** xxv, 22-23, 25-26 (°). On some Asiatic species of the subfamilies Exothecinae, Spathiinae, Hormioinae, Cheloniae and Macrocentrinae in the Royal Berlin Zoological Museum, **46,** liii, 41-55 (°). On a new genus and species of parasitic Cynipidae (Eucoilinae) from Cape Colony, **9,** xliii, 180 (°). Descriptions of four new species of Hymenoptera from Auckland Island. The Subantarctic Islands of New Zealand, by C. Chilton, Wellington. Vol. 1, 75-77, 1909 (°). **Cockerell, T. D. A.**—The No. Am. bees of the genus Nomia, **50,** xxxviii, 289-298 (*). Some bees of the genus Nomada from Washington State, **5,** xvii, 91-98 (*). **Ducke, A.**—Zur Synonimie der neotropischen Apidae, **45,** 1910, 362-369. **Emery, C.**—Genera Insectorum, Formicidae, subfam. Dorylinae, **194,** fasc. 102, 34 pp. **Girault & Sanders**—The Chalcidoid parasites of the common house or typhoid fly (Musca domestica), and its allies, **5,** xvii, 108-117, 145-160 (*). **Howard, L. O.**—On the habits with certain Chalcidoidea of feeding at puncture holes made by the ovipositor, **179,** iii, 257-260 **Kieffer, J J.**—Beschreibung neuer sudamerikanischer im zoologischen museum zu Berlin aufbewahrter Diapriiden, **84,** xxvii, 46-48, 54-56 (°). Description de nouveaux Bethylides, **86,** xxix, 31-

56 (*). Description de nouveaux Evaniides d'Amerique, **86,** xxix, 57-81 (*). Genera Insectorum, Belytidae, **194,** fasc. 107, 47 pp. Serphiden und Cynipiden von Madagaskar, **156,** ii, 529-534 (°). **Luderwaldt, H.**—Sphex striatus bei seinem Brutgeschaft, **92,** vi, 177-179. **Malden, W.**—Diseases of bees, **186,** v, 41-48. **Meade-Waldo, G.**—New species of Diploptera in the collection of the British Museum, **11,** vi, 100-110 (°). **Pfankuch, K.**—Ueber einige Typen der Holmgrenscher Gattung Bassus, **45,** 1910, 280-284. Die Typen der Gravenhortschen Gattung Bassus, **45,** 1910, 271-280. **Phillips, E. F.**—Bees, **7,** Farm. Bull. No. 397. **Rohwer, S. A.**—Notes on Tenthredinoidea, with descriptions of new species, **4,** xlii, 242-244 (*). Descriptions of new Psenid wasps from the U. S., **102,** xii, 99-104 (*). On a collection of Tenthredinoidea from eastern Canada, **50,** xxxviii, 197-209 (*). **Roubaud, E.**—Recherches sur la biologie des Synagris. Evolution de l'instinct ches les Guepes solitaires, **86,** lxxix, 1-21. **Sanders, G. E.**—Conflicts between ants, **75,** 1909, 51-54. **Schmiedeknecht, O.**—Opuscula Ichneumonologica, fasc. 25, pp. 1921-2000. **Schrottky, C.**—Neue Arten der Hymenopterengattung Ammophila aus Argentinien, **40,** xxv, 30-32. Neue und wenig bekannte sudamerikanische Bienen, **84,** xxvii, 56-57, 63, 72, 78, 88-89. **Snodgrass, R. E.**—The anatomy of the honey bee, **7,** Tech. Ser. No. 18. **Stenton, R.**—On the oviposition and incubation of the ichneumonid Paniscus (Parabatus) virgatus, **9,** xliii, 210-212. **Strand, E.**—Neue Hymenopterengattung, **40,** xxv, 26 (°). **Szepligeti, G.**—E. Jacobson'sche Hymenopteren aus Java und Krakatau. Teil II. Braconiden und Ichneumoniden, **83,** xxxii, 85-104 (°). **Turner, R. E.**—Genera Insectorum, Thynnidae, **194,** fasc. 105, 62 pp. (°). **Wasmann, E.**—Zur kenntniss der Ameisen und Ameisengaste von Luxemburg (continued), **270,** iv, fasc. 3 et 4, 103 pp. 1909. **Wheeler, W. M.**—Colonies of ants (Lasius neoniger) infested with Laboulbenia formicarum, **5,** xvii, 83-86. **Zander, E.**—Studien ueber die Honigbiene (Apis mellifica),**97,** xcv, 507-550.

The papers, in Russian, of Prof. Dr. N. V. Nassonov on Strepsiptera have been made accessible to German-reading students by a translation, by A. v. Sipiagin, published by Karl Hofeneder. (Untersuchungen zur Naturgeschichte des Strepsipteren. Von Prof. Dr. Nikolai Viktorovich Nassonov....Aus dem Russischen übersetzt von Alexander v. Sipiagin....Mit Anmerkungen und einem kritischen Anhang über einige Ansichten Meinerts betreffs der Anatomie des Weibchens herausgegeben von Karl Hofeneder, S. J. XXXIII. Bericht d. Naturwiss.-med. Vereins Innsbruck, 1910.) The 206 pages comprise a preface and an appendix by the publisher and translations of Nassonov's

articles on *Xenos Rossi* and the position of the Strepsiptera in the system (1892), the Metamorphosis of the Strepsiptera (1892), the Morphology of *Stylops melittae* (1893), Remarks on *Halictophagus Curtisii* (1893) and a supplement of six pages (1893). A table of contents, pp. 203-206, lists the anatomical, physiological, developmental and ecological topics treated which have made these papers of the Russian author among the most important ever published on this group of insects. Six lithographic plates reproduce those of the original memoirs.

A PRELIMINARY LIST OF THE ARACHNIDA OF INDIANA, WITH KEYS TO FAMILIES AND GENERA OF SPIDERS, by Nathan Banks.—Mr. Banks has recently sent me a copy of this interesting reprint from the Thirty-first Annual Report of the Department of Geology and Natural Resources of Indiana, 1906. One hundred and sixty-nine species are listed, 145 in the *Araneida*, 10 in the *Phalangida*, 4 in the *Pseudoscorpionida*, and 11 in the *Acarina*. Two new forms, *Clubiona triloba* and *Singa hentzi*, are described. There is also an interesting sketch on spider structure. It would be very helpful to entomologists if the NEWS would publish short reviews of various papers, especially those published, as in this case, in publications quite inaccessible to those in the more remote parts of the United States.—K. R. C.

Doings of Societies.

THE FIRST INTERNATIONAL CONGRESS OF ENTOMOLOGY.

[The following account is derived from letters from Dr. Henry Skinner, editor of the NEWS, who attended the Congress as a delegate from several societies, the official program and other documents which he has sent, an extended notice of the meeting in the London *Times* for August 10 "from a correspondent," and an article by Herr Sigm. Schenkling in the *Deutsche Entomologische National Bibliothek* for August 15. The Preliminary Program, Rules, etc., were printed in the NEWS for July last, pages 337-340.]

The Congress began with a reception to the members tendered by the Entomological Society of Belgium, at the Taverne Royale, Galerie du Roi 23, Brussels, on Sunday, July 31, at 8 P. M. Members were given their badges, free tickets to the Universal Exposition then in progress, admitting the holders for all the days the Congress was in session, and other official

documents; this distribution was continued the following day in the office of the General Secretary (M. Guillaume Severin) in the Palais des Fetes of the Exposition, in which building all the sessions were held. At the evening reception between seventy and eighty ladies and gentlemen were present.

A translation of the detailed program of the Congress follows:

Monday August 1.

10.30 A. M.—General session. Opening address by M. Auguste Lameere, Rector of the Free University of Brussels, President of the Congress. (E. Simon, Paris, Vice-president.) Report of the General Secretary, M. G. Severin. Organization of the sections. Conference by M. J. Künckel d'Herculais (Paris): "The invasions of grasshoppers, their destruction by natural causes and by man." Meeting of the Presidents of the sections.

2 P. M.—Section of Economic and Pathologic Entomology. President, R. Blanchard (Paris). Vice-president, F. Theobald (Wye). F. V. Theobald: Artificial distribution of insect pests. A. Andres (Alexandria): Notes on Lepidoptera attacking cotton and methods for their destruction. R. MacDougall (Edinburgh): *Galerucella lineola,* Coleopter, its life history and habits with notes on preventive and remedial researches (great damage done to *Salix*). D. Morris (Boscombe): The disinfection of imported seeds of plants and the use of insecticides (summary of laws in force in the British West Indies to control the introduction of insect pests with a general account of the several insecticides in use and the supplementary precautions of quarantine and inspection after admission of seeds and plants).

Section of Systematics. President, H. Kolbe (Berlin). Vice-president, J. Villeneuve (Rambouillet). H. Kolbe: Comparative morphology and classification of the Coleoptera. H. Kertesz (Budapest): The generic relations of the hitherto described species of *Pachygaster* (Diptera). L. Navas (Zaragosa): Some organs of the wings of insects. P. Speiser (Sierakowitz): The idea of genera in classification (creation of the

idea of genera one of the greatest deeds of Linnaeus; earlier genera often arbitrarily erected; necessity of testing them in respect to their phylogenetic relations; even to-day many genera are artificial, not natural).

Section of Nomenclature and Bibliography. President, S. Schenkling (Berlin). Vice-president, K. Kertész. A. Janet (Paris): A plea on the mode of entering species in indexes (alphabetic order by species not by genera). H. H. Lyman (Montreal): The importance of the uniform use of technical names referring to types, cotype, etc., and on the right of authors to change the names given by other authors (*Blakei* to *Blacei, Walkeri* to *Valkeri* etc.). W. Horn (Berlin): Communication of the paper sent by A. de Semenow-Tjan Shansky to the Congress: The taxonomic limits of the species and its subdivisions (Mem. Acad., St. Petersb., VIII Sér., v. 25, N. 1.)

Tuesday, August 2.

9 A. M.—General Session. President, E. L. Bouvier (Paris). Vice-president, W. Rothschild (Tring). R. Blanchard: Conference on Medical Entomology. E. Wasmann (Luxemburg): Ants and their guests. The paper announced for the meeting by A. Forel, on the geography and phylogeny of the ants, was not given owing to the author's absence due to a death in his family.

2 P. M.—Section of Bionomy, Physiology and Psychology. President, H. von Buttel-Reepen (Oldenburg). Vice-president, H. Osborn (Columbus). H. von Buttel-Reepen: Atavistic phenomena in the bee state; are there two or three germ fundaments in the bee egg? (various hitherto unconsidered morphological and biological phenomena in the bee state, *Apis mellifica-mellifica* L., *A. mellifica-fasciata* Latr., *A. mellifica-remipes* Pall., etc., show very old agreement with earlier developmental stages). K. Hasebroek (Hamburg): *Cymatophora or* aber. *albingensis* Warn. and its significance for melanism around Hamburg. E. W. Carlier and C. L. Evans: Note on the chemical constitution of the red colored secretion of *Timarcha tenebricosa.* H. Osborn: Remarks on the Jassid fauna

of North America (a general consideration of the occurrence and distribution of North American species, suggestions as to derivation and factors in the separation of species). J. Dewitz (Metz), announced for this session, was absent.

Section of Economic and Medical Entomology. President, Sir D. Morris (London). Vice-president, J. Kunckel d'Herculais. F. V. Theobald: The distribution of the Yellow Fever Mosquito (*Stegomyia fasciata*). V. Vermorel (Villefranche): The destruction of insects injurious to cultivated plants. J. M. Howlett (Pusa, Bengal): Economical questions in Bengal. A. Renard (Liege): Insects which transmit diseases. G. H. Carpenter (Dublin): Notes on the Oestridae (account of experiments to elucidate the life history of *Hypoderma bovis* and the economic value of preventive treatment; observations on the warble fly of the Reindeer, *Oedemagena tarandi*). L. Gedoelst (Brussels): Cuticolous Diptera of the Bovidae in the Congo. F. S. Perez: Preliminary notes and information on *Sphenoptera lineata* (Coleoptera) and the larva of a Lepidopter which attack *Hedysarum coronarium* of Tunis and Sicily.

Section of Nomenclature. President, H. Skinner (Philadelphia), Vice-president, P. Magretti (Milan). S. Schenkling and K. Jordan (Tring): Communication of various propositions sent to the Section by Messrs. Elliot, Lindinger, Alphéraky, Horn, Prout, Dampf and others.

Wednesday, August 3.

9 A. M.—General Session. President, R. Trimen (Oxford), Vice-president, A. Handlirsch (Vienna). F. A. Dixey (Oxford): Mimicry. R. C. Punnett (Cambridge): Mendelism and Lepidoptera.

10 A. M.—Section of Evolution and Mimicry. President, F. Merrifield (Brighton), Vice-president, S. Sjöstedt (Stockholm). F. Merrifield: Experimental Entomology. W. Schaus (London): What end is served by mimicry? (laws of nature and of evolution, observations made during long years in the forests of the neotropical region; birds only rarely attack diurnal Lepidoptera which have no need of protective colors).

K. Jordan: The systematics of certain Lepidoptera which resemble each other and their bearing on general questions of evolution. E. B. Poulton (Oxford): C. A. Wiggin's researches on mimicry in the forest butterflies of Uganda, 1909-1910 (the Danaine and Acraeine models fly in the same forest with their Nymphaline, Papilionine and other mimics and their proportions vary greatly at different times of the year).

Thursday, August 4.

9 A. M.—General Session. President, E. B. Poulton, Vice-president, E. Everts (The Hague). A. Handlirsch: Reconstructions of fossil insects. H. Donisthorpe (London): Ants and their guests. Y. Sjöstedt (Stockholm): The Swedish Kilimandjaro Expedition and its results.

2 P. M.—Section of Bionomy, Physiology and Psychology. President, E. Wasmann, Vice-president, P. Marchal (Paris). W. Horn: Analogous phenomena of twig-inhabiting Cicindelid larvae in the oriental and neotropical regions. E. L. Bouvier: Harvesting ants of the vicinity of Royan. R. Garcia y Mercet (Madrid): Nidification, biology and parasites of some Sphegidae (*Pelopoeus destillatorius, Chalybion bengalensis, Stigmus solskyi, Diodontus minutus,* etc.) K. Hasebroek: *Vanessa urticae* and *Plusia moneta* altered by Röntgen rays (demonstration). E. Olivier (Moulins): Abnormal pairings among insects. G. Horvath (Budapest): The Polyctenidae and their adaption to parasitic life. M. Bachmetjew (Sofia): Anabiosis in insects (lifeless condition which is produced by exposure to a certain temperature).

Section of Systematics. President, A. von Schulthess (Zurich), Vice-president, C. Gahan (London). E. L. Bouvier: Decapod Pycnogonids. A. Schulz (Villefranche): Systematic review of the Monomachidae (Hymenoptera). S. Schenkling: The new Jung-Schenkling Catalogus Coleopterorum. M. Bachmetjew: Spatial arrangement of Systematics (Spatial arrangement of systematics is presented in space by three coordinates whereby the existence of + or — forms is determined; its terminology is simpler).

Friday, August 5.

9 A. M.—General Session. President, A. Lameere, Vice-president, G. Horvath. Designation of a permanent international committee. Election of a central bureau of nomenclature. Choice of the place for holding the second Congress. Election of a President. [Oxford, in the summer of 1912, *not* 1913, under Professor E. B. Poulton.]

2 P. M.—Section of Museology and of the History of Entomology. President, W. J. Holland (Pittsburgh), Vice-president, J. C. H. de Meyere (Amsterdam). W. J. Holland: On the conservation of types in museums. J. M. Howlett: Preservation of collections in tropical climates. R. Garcia y Mercet: History of Entomology in Spain. H. Skinner: One hundred years of Entomology in the United States of America (an account of the few papers published on entomology prior to 1800: work of the pioneers; condition of affairs during the activity of Thomas Say, the father of American Entomology).

Section of Zoogeography. President, K. Holdhaus (Vienna), Vice-president, E. Olivier. K. Holdhaus: On the dependence of the fauna on the soil (influence of the soil constitution on biocenetics and geographic distribution of insects). E. Olivier: Geographic and physiologic distribution of the Lampyrid Coleoptera. W. Horn: On the Wedda Bridge (Tertiary land connection between Ceylon and the southeast of the Asiatic continent). S. Sainte Claire-Deville (Epinal): Limits of the hypogaeous and cavernicolous faunae in France.

The secretaries for the Congress were F. Ball, J. Desneaux, Baron M. de Selys-Longchamps, M. Philippson and H. Schouteden, all of Brussels, and F. Steinmetz, of Malines.

At its session of August 1 the Congress named the following Honorary members: C. Brunner von Wattenwyl (Vienna), C. Emery (Bologna), J. H. Fabre (Serignan), L. von Heyden (Frankfort), F. V. A. Meinert (Copenhagen), F. Plateau (Ghent), O. M. Reuter (Abo), S. H. Scudder (Cambridge, Mass.), P. C. T. Snellen (Rotterdam) and A. R. Wallace (Dorset).

The printed alphabetical list of members present at the Con-

gress gives the number of "adherents" including Universities, Museums, Institutes and Societies) as 270 of which 24 are life members. The actual attendance was about 180. In addition to those named in the program, some of those present were Arrow, Bagnall, R. Brown, Burr, Champion, Gillander, Jones, Longstaff, G. A. K. Marshall, and C. Rothschild, from England; Gounelle, Lesne and R. Martin from France; Assmuth, Becker, Bourgeois, Dadd, Dampf, Kuntze, Reh, von Rosen, Schubert, Seitz and Stringe from Germany; Klapalek, Bohemia; Ris, Switzerland; Dodero and F. Solari, Italy; Veth, Holland; nearly all the members of the Belgian Entomological Society; Tullgren, Sweden; Kosminski, Schnabl and Zaitzev, Russia; Sasaki and Inouye, Japan; Lahille, Argentina. Ladies present were Mesdames Burr, Donisthorpe, Dodero, Horn, Janet, Junk, Kolbe, Poulton, Schouteden, Severin, Speiser and Veth and Misses Engels, Kertész, Poulton, Severin and Solari.

Members of the Congress were also invited to the following excursions and reunions:

Aug. 1, 4.30 P. M.—Members of the Belgian Entomological Society placed themselves at the disposition of the congressists for sight-seeing in Brussels. At 6 P. M. an excursion to Malines under the guidance of MM. Steinmetz and Schouteden. At 8 P. M. a concert by the chimes in the tower of the Cathedral.

Aug. 2, 4.30 P. M.—Visit to the Exposition.

Aug. 3, P. M.—Excursions to Tervueren (Musée du Congo), Waterloo or the forest of Soignes. Dr. Skinner writes, "On Wednesday, the 3rd, I spent the afternoon tramping over the field of Waterloo with some of the Belgian entomologists and enjoyed the country perhaps more than the historical associations. M. Kerremans, the eminent Buprestidist, is an authority on Waterloo and he gave the history and acted as chief guide," and of the Musée du Congo, which he visited on another day, "It is a very fine display of everything relating to the trade, industries and natural history of the Congo. They have twenty-five gorillas and six okapis and two mounted skeletons of the latter."

Aug. 4, 4.30 P. M.—Visit to the Musée d'Histoire Naturelle, Brussels, where a group picture of the Congress was taken.

Aug. 5, 7 P. M.—Banquet at the Taverne Royale. "It was a swell affair and a great success. Of course there were many speeches and much good fellowship and the wine flowed and made things merry. Some of the men wore splendid decorations. It was really a fine thing to see so many distinguished entomologists under such auspices."

Aug. 6—Excursions to the Ardennes, Bruges and Ostend, or Antwerp.

Aug. 7, 9 P. M.—Reception by the Mayor of Brussels at the Hotel de Ville.

Of the Congress as a whole Dr. Skinner writes, "The meetings were well attended and the papers interesting and valuable." The writer in the *Times* declares it "was an unqualified success from start to finish."

The propositions laid before the Section on Nomenclature were: (translated from the French)

1. It is desirable that the international rules of zoological nomenclature should also be followed by entomology in so far as they respond to the needs of this science.

2. It is desirable that descriptions be accompanied by figures as far as possible.

3. The names of authors ought to be written in full as far as possible. The Committee on Entomological Nomenclature is charged to prepare a list of abbreviations of the names of authors for the next Congress.

4. Descriptions which are published only in merchants' catalogs or in political journals are to be rejected (without retroactive effect).

5. The Committee on Entomological Nomenclature is charged to prepare for the next Congress, a list of names of genera, species and varieties whose orthography it is desirable to correct.

6. It is highly desirable that entomological publications bear the precise date of their publication. The permanent international committee is charged to make known this resolution of

the Congress to all the editors and publishers of entomological publications.

7. Entomology adopts the law of priority without exception for the names of genera, species and varieties. The point of departure for nomenclature is the tenth edition of the *Systema Naturae* of Linnaeus (1758).

8. The Section on Nomenclature of the first international Congress of Entomology considers it as of the greatest importance that a new rule ("disposition") be added to the international rules of zoological nomenclature to the effect that in the description of a new species or variety, one specimen ("exemplaire") only be marked as "type," the other specimens examined at the same time by the author as "cotypes."

[At this writing we are not informed as to the action taken by the Congress on these propositions.]

NEWARK ENTOMOLOGICAL SOCIETY.

Meeting held January 9, 1910, in Turn Hall, with eleven members present. No program having been arranged for the meeting, adjourned after some informal discussion.

Meeting held February 13, 1910, in Turn Hall, with thirteen members present. Mr. Broadwell reported the following captures of Lepidoptera: *Acronycta caesarea,* Woodside, N. J., June 6; *Dercetis vitrea,* Woodside, N. J., June 17. Mr. Brehme exhibited a live *Anthocharis ansonides* with chrysalis from which it emerged.

HERMAN H. BREHME, *Secretary, pro tem.*

Meeting held March 13, 1910, in Turn Hall, with fifteen members present. Mr. Frederick Grubb, of Paterson, was elected a member. Mr. Buchholz reported the capture of *Autographa simplisima* Ottl., *A. rogationis* Gn. and *Erastria caduca* Grt., at Elizabeth, N. J., the first mentioned on May 15, the others on September 15, and *Acronycta caesarea* Sm., at Newark, N. J., on June 21.

Prof. Smith exhibited specimens of the various stages of *Rhynchites bicolor* and of the injury caused by them to roses

The beetle after emerging from the pupa, in which stage the winter is passed, attacks the unopened buds of the roses, boring holes through the calyx and petals, and feeds on the unripe pollen. Thus when the flowers expand the petals are badly mutilated and the blooms unsightly. The beetles continue to feed on the pollen after the flowers are open, and when the seed pods begin to form the eggs are laid within them. The larvæ develop within the capsules and when full grown leave the pod and enter the earth for pupation. Incidentally the Professor called attention to the method used in the Entomological Laboratory of the New Jersey Experiment Station for mounting insects in alcohol for exhibition purposes. The specimens are arranged on a white porcelain slip and held in place by a transparent glue. This slip is placed in a vial and corked with a rubber stopper, the air within the glass tube being removed by the insertion of a fine pin down the side of the stopper, and which is withdrawn when the stopper is in place.

Mr. Buchholz said that from a piece of yucca which he secured in California he bred a Tineid (pronounced new by Mr. W. D. Kearfott), after the wood had become thoroughly dry. The year thereafter still other specimens issued, having apparently lived over for two years in the pupa stage.

Mr. Frank remarked that from a wooden souvenir which he had purchased in the mountains numerous small beetles emerged three years after.

Meeting held April 10, 1910, in Turn Hall, with seventeen members present.

Mr. Buchholz reported the capture of *Catocala jair* Streck., at Lakehurst, N. J., on July 17.

Mr. Grossbeck made a few remarks on the Barnes and Strecker collections of Lepidoptera. Over the Geometrid section of the former he had the pleasure of working for two months and in this group he believes the collection to be the largest in the country. Most of the other sections of the Macro-Lepidoptera are represented even better than the Geometridæ which has suffered some neglect since the death of the

last authority in the family, Dr. Hulst, and some of the sections, as, the Diurnals, Sphingids and Catocalæ are well-nigh complete. Best of all is the immense series of one species that Dr. Barnes keeps—practically no limit being set on insects that display variation—and the excellent condition and mounting of the specimens themselves. At present the entire collection is being reset and mounted on the best Kirby pins. The collection is kept in cabinet drawers of the most modern make, is abundantly labelled in all respects and well arranged.

The Strecker collection now located in the Field Museum of Natural History, under the charge of Mr. William J. Gerhard, approaches in number of specimens that of Dr. Barnes, but includes the species of the world and is hence far from complete in North American species. It is much richer in Diurnals than in nocturnals and contains many monstrosities. In respect of mounting and general condition of the specimens it vies with that of Dr. Barnes.

JOHN A. GROSSBECK, *Secretary.*

FELDMAN COLLECTING SOCIAL.

At a regular meeting of the Feldman Collecting Social held at 1523 South Thirteenth Street, Philadelphia, May 18th, 1910, twelve members were present. President Harbeck in the chair.

Prof. Smith said that in the January minutes of the Social published in the May number of ENT. NEWS, p. 239, he was made to say just opposite to what was intended and it should read: The "wood leopard moths" on the Harvard University grounds at Cambridge, Mass. are doing great injury. This insect, which remains in the larval stage two full years, is injurious within the range of sparrow domination only and usually wherever other birds can live the "leopard" is not injurious. But in the Harvard campus the gray squirrels which are very numerous and tame absolutely prevent the breeding of any bird so there is nothing at all to check the caterpillars.

Mr. Wenzel read a postal and letter from Dr. Castle, at present collecting in Florida. In the latter he mentioned the method of collecting *Acalles hubbardi* LeC. in Opuntia.

Prof. Smith read a communication from A. F. Burgess on *Calosoma* and *Carabus*. Mr. Wenzel said that *Calosoma* seemed practically wiped out in this locality, mentioning the scarcity of the various species and said that the only species he had seen common were *willcoxi* and *scrutator* at Burleigh, Cape May Co., N. J. Prof. Smith said that in Europe where *Carabus* is very common, many species live in the open and cultivated ground, while here we have not a single species with this habit.

Mr. C. T. Greene exhibited and recorded the following Diptera: *Sphecomyia vittata* Wied., Malaga, N. J., V-1-'10 and *Teuchocnemus bacuntius* Walker, a ♀ from Clementon, N. J., V-7-'10, both collected by himself. He had taken two ♂ specimens of the latter at Darby, Pa., V-7-1899; the New Jersey record in the 1900 list is Palisades."

Mr. Kaeber, in continuation of his communication of last meeting, said he collected more *Sphenophorus* in the "Philadelphia Neck" adding *minimus* and *pertinax*. Many were taken under stones and some in copulation in roots of grasses. He said that the larvae of *Cryptorhynchus lapathi* were still active in the willows and many Diptera were around the workings. Prof. Smith said the poplars in New Jersey were more infested than the willows and that the weevil was in maturity about the latter part of August.

Mr. Wenzel exhibited his collection of *Platynus*, which is nearly complete, explaining that where about 75 per cent. were previously mounted on slips now that we have the firm fine pins it is only necessary to mount a couple of species in this manner. Adjourned to the annex.

GEO. M. GREENE, *Secretary*.

OBITUARY.

CYRUS THOMAS, PH.D.

Among the names of those men whose earnest work in the seventies and eighties laid the foundations of economic, and to a great measure systematic, entomology in America, that of

Cyrus Thomas occupies a prominent place. Although the last twenty-five years of his life were spent in archaeological and ethnological work, his early work made his name very familiar to the present day entomologist, particularly students of the Orthoptera. Born at Kingsport, Tennessee, July 27, 1825, he died at Washington, D. C., June 27, 1910, at the age of eighty-five.

Dr. Thomas practiced law until 1865, was county clerk of Jackson County, Illinois, 1850-53, and a minister of the Evangelical Lutheran Church, 1865-1869. In 1869 he was appointed assistant on the United States Geological and Geographical Survey of the Territories (Hayden Survey), serving until 1873 and reporting on a number of Orthoptera collections made by the field parties of the survey. From 1873 to 1875 he was Professor of Natural Science in the Southern Illinois Normal University, while from 1874-1875 he served as state entomologist of Illinois. As a member of the famous U. S. Entomological Commission he served from 1877-1879, in 1882 becoming Archaeologist of the U. S. Bureau of Ethnology, which post he held at the time of his death.

His papers on Orthoptera number twenty-eight, in addition to his work in connection with the Entomological Commission. The first Orthoptera paper was published in 1862, the last being in the Commission reports. The latter reports, drawn up by Riley, Packard and Thomas, are probably his best known work, collaborating as he was with the other commissioners on several very important economic problems, but the more strictly taxonomic paper of greatest value from his pen was the "Synopsis of the Acrididæ of North America," published in 1873 as a report of the U. S. Geological Survey of the Territories. His other papers making known the new material secured by the Survey field parties are of the greatest value to the working Orthopterist.

As an archaeologist Dr. Thomas was well known for his works in Maya inscriptions and codices, on the Cherokee and Shawnee Indians and numerous other studies.—[J. A. G. R.]

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Lepidoptera—I have for exchange *Catocala badia, antinympha* and *muliercula* exlarva for Catocalas not in my collection. I also offer Vol. X-XVI inclusive of the ENT. NEWS for cash or good exchange.—Henry Wormsbacher, 287 Central Ave., Jersey City, N. J.

Wanted, Cicindelidae, by exchange or purchase.—*O. submetallicus, hornii. D. pilatei. C. vestalia, bowditchi, spreta, plulonica, lauta, sierra, hyperborea, cyanella, tuolumnae, nevadica,* ditto var. *californica, striga, viridistincta.*—Wm. C. Wood, 51 Fifth Ave., New York.

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Will arrange to collect any Order or Group of insects and spiders of S. Calif. (San Gabriel Mts.) during this season, in exchange for perfect N. Amer. Lepidoptera.—Fordyce Grinnell, Jr., 572 N. Marengo Avenue, Pasadena, California.

Wanted—For cash, six living pupae of *Phlegethontius quinquemaculata* and six living cocoons of *Telea polyphemus.*—Annette F. Braun, 2702 May St., Cincinnati, Ohio.

I wish to purchase Volume XXXI of the Canadian Entomologist, for which I will pay $3.00; and the April Number of Volume XXXIV, for which I will pay $1.00.—J. F. Abbott, Washington Univ., St. Louis, Mo.

Saturnidae—Have always for exchange ova, cocoons or set imagines of Japan, Africa, Ceylon, India and Malayan Saturnidae as *Attacus edwardsi, Actias selene, Caligula japonica, simla* and a new species of *Cricula.* Wanted live cocoons or ova Central American and Mexican *Attacus,* also *luna, colombia, calleta* and *shastaensis.* Old correspondents invited to write.—J. Henry Watson, 70 Ashford Road, Withington, Manchester, England.

Records of Hemiptera collected on Long Island desired (especially Homoptera, and will be received with much appreciation by C. E. Olsen, Jefferson Ave., Maspeth, L. I.

Wanted connections with reliable entomologists in California, Arizona and Florida for the intercourse of mutual assistance in experimental work with Heterocera and Rhopalocera.—Carlo Zeimet, 170 William Street, New York, P. O. Box 1613.

Cicindelidae for exchange. All are first class, fresh, in papers. Also have others in my collection.—Adolph Maresh, 2517 S. Homan Avenue, Chicago, Ill.

Wanted—Proc. Ent. Soc. Phila., Vol. ii; Trans. Am. Ent. Soc., Vol. iii; Experiment Station Record, Vol. iii, No. 4, and Vol. iv, No. 5; Bull. of Brooklyn Ent. Soc., Vol. iii. Will pay cash or exchange.—R. W. Harned, Agricultural College, Mississippi.

Wanted—Riley's 9th Mo. Report. Have Riley's 4th and the Supplement to 9th and index to the 9th Mo. Reports for sale.—E. O. G. Kelly, Wellington, Kansas.

Polyphylla variolosa offered in exchange—Have you fine specimens of this rare North American beetle in your collection? If not, send me a list of not over twenty rare species that you have to offer in exchange. My supply of specimens is limited.—Philip Laurent, 31 East Mt. Airy Ave., Philadelphia, Penna.

Coleoptera exchanged for native or exotic specimens new to my collection. List on application.—Emil Liljeblad, 1018 Roscoe St., Chicago, Ill.

Wanted—All kinds of pupae and cocoons either for cash or good exchange.—Herman H. Brehme, 74 13th Ave., Newark, N. J.

Lepidoptera in papers from this locality for exchange. Lists sent on application. Edwin P. Meiners, Troy, Illinois.

Have for Exchange—Eggs of *Catocala innubens, cara, ilia, neogama, vidua, piatrix, scintillans* and pupae of *modesta* and other hawks and pupae of *ajax, cresphontes, luna* and others. Wish eggs or imagoes of *marmorata*, etc.—R. R. Rowley, Louisiana, Mo.

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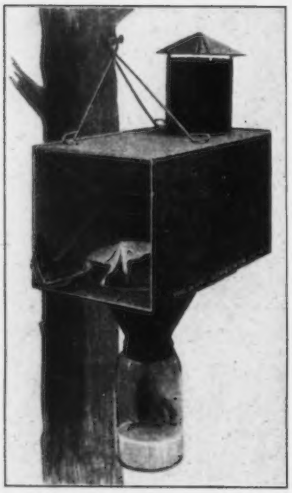

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